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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LEE, SUSAN SHUK YIN

ART UNIT

PAPER NUMBER

2852

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/079,894

Applicant(s)

YAMAMOTO ET AL

Examiner

Susan S. Lee

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-56 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6. 6) ☐ Other:

DETAILED ACTION

Claim Objections

Claim 7 is objected to because of the following informalities: As to claim 7, line 2, "the thickness" lacks antecedent basis.

Appropriate correction is required.

Specification

The abstract of the disclosure is objected to because on page 37, the abstract does not describe the invention as claimed. In addition, "according to the present invention" should be avoided in the abstract.

Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14-16, 19, 20, 23, 42, 44, 45, 48, 49, 52, and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by Ojima et al. (472)..

Ojima et al. discloses an image forming apparatus 1 with a process cartridge 17 having units that are detachably mountable. The units have an image bearing member 2 (note column 1, lines 11-52); a developing apparatus having a developing carrying member 8, one component non-magnetic developer (note column 19, lines 50-51); and a developer regulating member 28 in the form a blade comprising a base made of a metal plate 28a with a thickness of 0.1 mm and a polyamide resin high resistance layer 28c having a thickness of approx. 40 μ m covering the base metal plate 28a, and urethane rubber 28c. The contact pressure per unit longitudinal length of the blade is approx. 30 g/cm. Note column 7, lines 37-53.

Claims 14, 15, 17, 19, 42, 44, 46, 48, and 56 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al. (104).

Kato et al. discloses an image forming apparatus with an image bearing member 3 (note column 3, lines 60-61); a developing apparatus 5 having a developing carrying member 21 with a resin layer 21b (note column 7, lines 47-49) that reads on the instant invention's elastic in claim 56; and a developer regulating member 26 in the form a blade comprising a base 26a made of urethane rubber with a thickness of 1.3 mm and a

polyamide resin layer 26b having a thickness of 20 μm covering the base 26a. Note column 9, lines 9-25.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17, 18/14, 18/17, 21, 22, 46, 47/42, 47/46, 50, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ojima et al. (472) in view of Kinoshita et al. (575).

Ojima et al., as discussed above, differ from the instant invention by not disclosing the elastic member of the developing regulating member is made of polyether and the base member of the developing regulating member is made of a metal with elastic.

Kinoshita et al. shows a developing blade 10 with a phosphor bronze plate 10a having a spring elasticity and a polyamide elastomer layer 10b. The polyamide elastomer is made of polyamide and polyether with a linkage of ester or amide. Note column 10, lines 23-34.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to recognize that a material such as polyamide of Ojima et al. is made of polyamide and polyether bonded by ester or amide as shown by Kinoshita et al. and to modify the apparatus of Ojima et al. with the base of Kinoshita et al. so that

the lifetime usage of the developing regulating member can be prolonged with the base made of metal with a spring elasticity.

Claims 24 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ojima et al. (472) in view of Tsukida et al. (784).

Ojima et al., as discussed above, differs from the instant invention by not disclosing the shape of the toner.

Tsukida et al. discloses a developing device with one component nonmagnetic toner having shape factors SF-1 of 100-120 and SF-2 of 100-120. Note column 6, lines 33-37.

It would have been obvious to one of ordinary skill the art at the time the invention was made to modify the apparatus of Ojima et al. with that of Tsukida et al. to obtain optimal developing.

Claims 25 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ojima et al. (472) in view of Koga (966).

Ojima et al., as discussed above, differs from the instant invention by not disclosing the number of percentage of toner particles having a weight average particle size of 4 μm or less of 30% or less.

Koga discloses a toner having a volume average particle of 6 to 10 μm , with the percentage of toner particles not larger than 5 μm being no more than 15% of the toner particles. Note column 20, lines 12-15.

It would have been obvious to one of ordinary skill the art at the time the invention was made to modify the apparatus of Ojima et al. with that of Koga by replacing the toner with that of Koga so that a developing system will have less fluctuations in the charges on the toner in various areas of impression, thereby reducing the deterioration in image quality such as fogging. Note column 2, lines 54-58.

Claims 1-4, 7, 8, 11, 26, 28-30, 33, 34, 37, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ojima et al. (472) in view of Sibilia (991).

Ojima et al., as discussed above, differs from the instant invention by not disclosing the resistance of the polyamide.

Sibilia discloses that a polyamide has a resistivity of about 10^{15} ohm.cm. Note column 1, lines 16-18.

It would have been obvious to one of ordinary skill the art at the time the invention was made to recognize the polyamide of Ojima et al. has a very high resistance as shown by Sibilia.

Claims 1-3, 5, 7, 26, 28, 29, 31, 33, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (104) in view of Sibilia (991).

Kato et al., as discussed above, differs from the instant invention by not disclosing the resistance of the polyamide.

Sibilia discloses that a polyamide has a resistivity of about 10^{15} ohm.cm. Note column 1, lines 16-18.

It would have been obvious to one of ordinary skill the art at the time the invention was made to recognize the polyamide of Kato et al. has a very high resistance as shown by Sibilia.

Claims 5, 6/1, 6/5, 9, 10, 31, 32/26, 32/31, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ojima et al. (472), as modified by Sibilia (991), as applied to claims 1-4, 7, 8, 11, 26, 28-30, 33, 34, 37, and 40 above, and further in view of Kinoshita et al. (575).

Ojima et al., as modified by Sibilia, differ from the instant invention by not disclosing the elastic member of the developing regulating member is made of polyether and the base member of the developing regulating member is made of a metal with elastic.

Kinoshita et al. shows a developing blade 10 with a phosphor bronze plate 10a having a spring elasticity and a polyamide elastomer layer 10b. The polyamide elastomer is made of polyamide and polyether with a linkage of ester or amide. Note column 10, lines 23-34.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to recognize that a material such as polyamide of Ojima et al. in view of Sibilia et al. is made of polyamide and polyether bonded by ester or amide as shown by Kinoshita et al.; and to modify the apparatus of Ojima et al. in view of Sibilia with the base of Kinoshita et al. so that the lifetime usage of the developing regulating member can be prolonged with the base made of metal with a spring elasticity.

Claims 12 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ojima et al. (472), as modified by Sibilia (991), as applied to claims 1-4, 7, 8, 11, 26, 28-30, 33, 34, 37, and 40 above, and further in view of Tsukida et al. (784).

Ojima et al., as modified by Sibilia, differ from the instant invention by not disclosing the shape of the toner.

Tsukida et al. discloses a developing device with one component nonmagnetic toner having shape factors SF-1 of 100-120 and SF-2 of 100-120. Note column 6, lines 33-37.

It would have been obvious to one of ordinary skill the art at the time the invention was made to modify the apparatus of Ojima et al. in view of Sibilia, with that of Tsukida et al. to obtain optimal developing.

Claims 13 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ojima et al. (472), as modified by Sibilia (991), as applied to claims 1-4, 7, 8, 11, 26, 28-30, 33, 34, 37, and 40 above, and further in view of Koga (966).

Ojima et al., as modified by Sibilia, differ from the instant invention by not disclosing the number of percentage of toner particles having a weight average particle size of 4 μm or less of 30% or less.

Koga discloses a toner having a volume average particle of 6 to 10 μm , with the percentage of toner particles not larger than 5 μm being no more than 15% of the toner particles. Note column 20, lines 12-15.

It would have been obvious to one of ordinary skill the art at the time the invention was made to modify the apparatus of Ojima et al. in view of Sibilia et al. with

that of Koga by replacing the toner with that of Koga so that a developing system will have less fluctuations in the charges on the toner in various areas of impression, thereby reducing the deterioration in image quality such as fogging. Note column 2, lines 54-58.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ojima et al. (472), as modified by Sibilia (991), as applied to claims 1-4, 7, 8, 11, 26, 28-30, 33, 34, 37, and 40 above, and further in view of Ohzeki et al. (166).

Ojima et al., as modified by Sibilia, differ from the instant invention by not disclosing the developer regulating member has a potential identical with that of the developer carrying member.

Ohzeki et al. discloses a developing device with a developer carrying member 3 and a regulating member 1 having the same voltage applying device 6 applying the same potential to both. Note abstract and Fig. 1.

It would have been obvious to one of ordinary skill the art at the time the invention was made to modify the apparatus of Ojima et al. in view of Sibilia et al. with that of Ohzeki et al. so that optimal developing can be obtained.

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ojima et al. (472) view of Ohzeki et al. (166).

Ojima et al. differ from the instant invention by not disclosing the developer regulating member has a potential identical with that of the developer carrying member.


Ohzeki et al. discloses a developing device with a developer carrying member 3 and a regulating member 1 having the same voltage applying device 6 applying the same potential to both. Note abstract and Fig. 1.

It would have been obvious to one of ordinary skill the art at the time the invention was made to modify the apparatus of Ojima et al. with that of Ohzeki et al. so that optimal developing can be obtained.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan S. Lee whose telephone number is 703-308-2138. The examiner can normally be reached on Mon. - Fri., 10:30-8:00, Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Art Grimley can be reached on 703-308-1373. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Susan S. Lee
Primary Examiner
Art Unit 2852